APPELLANTS' BRIEF AND APPENDICES

RECEIVED
FEB 02 2007
TC 1700

RECEIVED
FEB 01 2007
U.S. PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Board of Patent Appeals and Interferences, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the 30 day of January, 2007.

John D. DeLong, Registration No. 44,648

TABLE OF CONTENTS

Appellant's Brief 1
Real Party in Interest 1
Related Appeals and Interferences 1
Status of the Claims 1
Status of Amendments 2
Summary of the Claimed Subject Matter 2
Grounds of Rejection to be Reviewed on Appeal 2
Argument 2
First Ground of Rejection, Claims 1 through 17 2
Claims Appendix .... Appendix 1
Claims Involved in Appeal .... Appendix 1
Evidence Appendix .... Appendix 2
Related Proceedings Appendix .... Appendix 3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Randal Howard Kerstetter III, et al.)
For: HOSE CONSTRUCTION)
CONTAINING POLYMER COMPOSITION)
Serial No.: 10/680,767)
Filed: October 7, 2003)

Docket No.: DN2002161
Confirmation No.: 5233
Art Unit: 1772
Examiner: Michael C. Miggins

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

RECEIVED
FEB 0 2 2007
TC 1700

Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

RECEIVED
FEB 0 1 2007
U.S. PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

APPELLANTS' BRIEF

Dear Sir:

Appellants, by virtue of their Notice of Appeal filed October 30, 2006, hereby files their Brief in response to the Final Rejection of all pending claims in the above-identified application. Please charge my Deposit Account No. 07-1725 in the amount of Six Hundred Twenty and 00/100 Dollars ($620.00) to cover the fee for filing this Brief in support of this Appeal and for a one-month extension of time to file this Brief. Any deficiency or overpayment should be charged to this Deposit Account.

Real Party in Interest

By virtue of Assignments dated August 27 and 28, 2003 by the named inventors, the real party in interest is The Goodyear Tire & Rubber Company. These assignments have not been recorded in the U.S. Patent and Trademark Office.

Related Appeals and Interferences

Appellant is not aware of any appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

Status Of The Claims

Claims 1 through 17 stand rejected and are subject to this Appeal. A copy of claims 1

through 17 appear in the Claims Appendix of this Brief.

Status Of Amendments

No amendment after Final Rejection under 37 C.F.R. Section 1.116 was filed.

Summary Of The Claimed Subject Matter

The present invention relates to an automotive hose having at least one rubber layer comprising from about 60 to about 95 parts by weight of EVM, and from about 5 to about 40 parts by weight of ACM (specification at page 2, lines 18 through 20).

Grounds of Rejection to be Reviewed on Appeal

The first issue and only before the Board of Patent Appeals and Interferences is whether claims 1 through 17 are properly rejected under 35 U.S.C. Section 103(a) as being unpatentable over Fischer, U.S. Patent No. 4,309,332 in view of Lewis, U.S. Patent No. 3,873,494.

ARGUMENT

Claims 1 through 17 Rejected Under 35 U.S.C. Section 103(a)

Claims 1 through 17 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Fischer in view of Lewis.

To establish a *prima facie* case of obviousness, the PTO must satisfy three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. *See Karsten Mfg. Corp. v. Cleveland Gulf Co.*, 242 F.3d 1376, 1385, 58 U.S.P.Q.2d 1286, 1293 (Fed. Cir. 2001) ("In holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention."); *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340,

1352, 48 U.S.P.Q.2d 1225, 1232 (Fed. Cir. 1998) (a showing of a suggestion, teaching, or motivation to combine the prior art references is an "essential evidentiary component of an obviousness holding"); *Northern Telecom v. Datapoint Corp.*, 908 F.2d 931, 934, 15 U.S.P.Q.2d 1321, 1323 (Fed. Cir. 1990) ("It is insufficient that the prior art disclosed the components of the patented device, either separately or used in other combinations; there must be some teaching, suggestion, or incentive to make the combination made by the inventor."); *Abbott Laboratories v. Syntron Bioresearch, Inc.*, 334 F.3d 1343, 67 U.S.P.Q.2d 1337 (Fed. Cir.), *reh'g denied*, 2003 U.S. App. LEXIS 17605 (2003) ("Knowledge in the prior art of every element of a patent claim, however, is not of itself sufficient to render claim obvious. The issue is whether substantial evidence supports the judgment (under the clear and convincing evidence standard) that a person having ordinary skill in the art would not have been motivated to replace the [prior art process] with [the process of the invention]"). Motivation to modify a reference may be lacking where the prior art teaches away from such a modification. *In re Gurley*, 27 F.3d 551, 31 U.S.P.Q.2d 1130 (Fed. Cir. 1994) ("A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the Appellant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the Appellant.") If a proposal for modifying the prior art in an effort to attain the claim invention causes the art to become inoperable or destroys its intended function, then the requisite motivation to make the modification would not have existed. *See In re Fritch*, 972 F.2d at 1260, 1265 n.12, 23 U.S.P.Q. 2d 1780, 1783 n.12 ("A proposed modification [is] inappropriate for an obviousness inquiry when the modification render[s] the prior art reference inoperable for its intended purpose."); *In re*

Ratti, 270 F.2d 810, 813, 123 U.S.P.Q. 349, 352 (C.C.P.A. 1959) (holding the suggested combination of references improper under §103 because it "would require a substantial reconstruction and redesign of the elements shown in [a prior art reference] as well as a change in the basic principles under which [that reference's] construction was designed to operate").

Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. In other words, a hindsight analysis is not allowed. *See Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991) (While the idea of using a monkey gene to probe for a homologous human gene may have been "obvious to try," many pitfalls existed that would have eliminated a reasonable expectation of successfully obtaining the EPO gene. "Hindsight is not a justifiable basis on which to find that ultimate achievement of a long sought and difficult scientific goal was obvious."); *In re Erlich*, 3 U.S.P.Q.2d 1011, 1016 (Bd. Pat. App. & Int. 1986) ("At the time the invention was made, one of ordinary skill in the art would have been motivated to produce monoclonal antibodies specific for human fibroplast interferon using the method of [the prior art] with a reasonable expectation of success.").

Lastly, the prior art reference or combination of references must teach or suggest all the limitations of the claims. *See In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970) ("All words in a claim must be considered in judging the patentability of that claim against the prior art.").

Fischer teaches an ethylene vinyl acetate gum stock modified with a suitable elastomer, including polyacrylate rubber among others (abstract). Fischer further teaches that to be suitable for addition to the ethylene vinyl acetate, an elastomer must have a Mooney viscosity ML (1+4) @ 100 °C ranging from 65 to 115 (column 2, lines 5 through15). As

noted by the Examiner, Fischer fails to disclose an ACM having a Mooney viscosity as recited in the claims. To provide for the lack of teaching in Fischer, the Examiner proposes to combine Fischer with the teaching of Lewis.

Lewis teaches a cable covering that is a blend of a butadiene/acrylonitrile polymer (i.e., NBR) with an ethylene acrylic ester polymer, i.e., AEM, or an ethylene/vinyl acetate polymer, i.e., EVM. (column 1, Lines 34 through 45). Lewis teaches nothing about suitable Mooney viscosity of the AEM or EVM; Lewis discloses only that the Mooney viscosity of the NBR should be in the range of 20-120. Moreover, Lewis does not disclose the use of ACM.

Appellants urge that the claims are not obvious over Fischer in view of Lewis. Fischer clearly teaches away from the recited Mooney viscosity range: Fischer requires that the Mooney viscosity of the added elastomer be in the range of 65 to 115 in order to obtain the desired increase in Mooney viscosity and green strength of the blended ethylene vinyl acetate/added elastomer without negatively affecting the physical and chemical properties of the ethylene vinyl acetate copolymer (column 2, lines 5 through 15). By contrast, the claims as amended recite a Mooney viscosity ML (1+4) @ 100 °C ranging from 23 to 53, well below that taught as necessary by Fischer.

Appellants further urge that a combination of Fischer and Lewis does not result in the present claims, and therefore no *prima facie* obviousness is established. Lewis teaches only that an ethylene acrylic ester polymer or ethylene/vinyl acetate polymer may be blended with a butadiene/acrylonitrile polymer. Nowhere does Lewis teach or suggest an ACM with a Mooney viscosity as recited in the present claims; the only mention of Mooney viscosity in Lewis pertains to the suitable viscosity for the butadiene/acrylonitrile polymer. Thus, even if combined, the proposed combination of Fischer and Lewis does not result in the present claims.

Lewis in fact does not teach the use of ACM at all. Lewis at Column 1, Lines 34 through 45 teaches a cable covering that is a blend of a butadiene/acrylonitrile polymer (i.e., NBR) with an ethylene acrylic ester polymer (i.e., AEM) or an ethylene/vinyl acetate polymer (i.e., EVM). Nowhere does Lewis teach or make obvious the use of ACM in any way. In fact, ACM is contrasted with AEM in the current specification in Example I, wherein a specific AEM is identified as a terpolymer of ethylene, methyl acrylate, and a cure site monomer. By contrast, and as would be appreciated by one skilled in the art, ACM is not derived from ethylene as one of its monomers. Clearly, the proposed combination of Fischer and Lewis does not result in the present claims.

Neither Fischer nor Lewis teaches an ACM having a Mooney viscosity as recited in the present claims. As such, the combination of Fischer and Lewis does not result in the present claims, and *prima facie* obviousness is not established.

Further, Appellants urge that the Examiner has cited nothing to support the assertion that an AEM having a particular range of Mooney viscosity (as disclosed in Lewis) is equivalent to an ACM having that range of Mooney viscosity (as recited in the claims). It is apparent that the Examiner has relied on personal knowledge to support this assertion. Appellants have requested that the Examiner supply an affidavit under 37 CFR 1.104(d)(2) attesting to this personal knowledge. Short of such an attestation, there is no nexus between the AEM of Lewis and the ACM of the present claims, the use of Lewis to supplement the teaching of Fischer therefore fails, and *prima facie* obviousness is not established.

The Examiner has refused to accommodate Appellants' request for an affidavit attesting to the Examiner's personal knowledge of the similarity between AEM and ACM (Office action mailed 7/27/06, paragraph 4). Here, the Examiner maintains Lewis is relied upon "to show that lower mooney viscosities are well known and obvious for acrylic containing rubbers in order to provide easier processing. Nowhere has the examiner asserted

that the Fischer and Lewis acrylic containing rubbers are structurally equivalent." However, the Examiner previously stated, "Lewis is merely relied upon to show that Appellant's recited mooney viscosity for ACM or AEM, *which is a very similar compound to ACM is well known* (Office Action mailed 2/15/06 at paragraph 5, *emphasis added).* It is clear that the Examiner indeed assumes that ACM and AEM are "similar compounds," and groups them together as "acrylic containing rubbers" and thereby asserts their equivalence. However, nowhere has the Examiner provided any evidence that ACM and AEM are equivalent, other than to assert that Lewis discloses the use of AEM having a Mooney viscosity in the range of 20 to 120. Indeed, Lewis teaches that AEM having a Mooney viscosity in the range of 20 to 120 may be used in a blend with a butadiene/acrylonitrile polymer (column 1, lines 34 through 46). In order to arrive at the present claims, one skilled in the art would have to assume that the AEM of Lewis is equivalent to the ACM of Fischer and thereby substitute the ACM for the AEM, while simultaneously disregarding Fischer's requirement that the Mooney viscosity be in a range of 65 to 115. Nowhere does Lewis teach nor suggest that such an AEM may be used with EVM as recited in the present claims, nor even that an ACM of similar Mooney viscosity may be substituted for the AEM.

But, even if it is assumed (as urged by the Examiner in the most recent office action) that ACM with the recited Mooney viscosity is equivalent to the AEM disclosed in Lewis, *prima facie* obviousness is still not established. Fischer teaches use of an ACM having a Mooney viscosity ranging from 65 to 110. Fischer thereby teaches away from use of an ACM (or AEM, or any other material) having a Mooney viscosity as recited in the claims, and one skilled in the art therefore would not be motivated to modify the teaching of Fischer (requiring a Mooney viscosity of 65 to 110) to obtain the present claims (requiring a Mooney viscosity in a range selected from the group consisting of 23 to 31, 29 to 36, and 43 to 53.)

Since no motivation exists to modify the teaching of Fischer, *prima facie* obviousness is not established.

Based upon the foregoing, Appellants respectfully request reconsideration of the pending claims and earnestly solicits a reversal of the Examiner's Final Rejection.

Respectfully submitted,

John D. DeLong, Registration No. 44,648
Attorney for Appellant

The Goodyear Tire & Rubber Company
Department 823
1144 East Market Street
Akron, Ohio 44316-0001
Telephone: (330) 796-8757

CLAIMS APPENDIX

Claims on Appeal:

1. An automotive hose comprising at least one rubber layer comprising:

(A) from about 60 to about 95 parts by weight of EVM; and

(B) from about 5 to about 40 parts by weight of ACM having a Mooney viscosity ML (1+4) @ 100°C in a range selected from the group consisting of 23 to 31, 29 to 36, and 43 to 53.

2. The hose of claim 1, wherein said rubber layer comprises from about 80 to about 90 parts by weight of EVM and from about 10 to about 20 parts by weight of ACM.

3. The hose of claim 1, wherein said rubber layer comprises from about 70 to about 90 parts by weight of EVM and from about 10 to about 30 parts by weight of ACM.

4. The automotive hose of claim 1 wherein said EVM comprises from about 40 to about 80 percent vinyl acetate.

5. The automotive hose of claim 1 wherein said EVM comprises from about 50 to about 70 percent vinyl acetate.

6. The automotive hose of claim 1 wherein said ACM comprises one or more monomers selected from the group consisting of C1-C8 alkyl acrylates and C2-C8 alkoxy C1-C8 alkyl acrylates.

7. The automotive hose of claim 6 wherein said ACM further comprises at least one cure site monomer.

8. The automotive hose of claim 6 wherein said ACM further comprises at least one cure site monomer selected from the group consisting halogen-containing cure site monomers, epoxy monomers and carboxylate type cure site monomers.

9. The automotive hose of claim 7 wherein said halogen containing

monomer is vinyl chloroacetate or 2-chloroethyl vinyl ether.

10. The automotive hose of claim 1 wherein said ACM is a copolymer comprising ethyl acrylate, butyl acrylate, methoxyethyl acrylate, and a cure site monomer.

11. The automotive hose of claim 1 wherein said rubber layer further comprises from about 10 to about 120 phr of carbon black.

12. The automotive hose of claim 1 wherein said rubber layer further comprise from about 35 to about 90 phr of carbon black.

13. The automotive hose of claim 1 wherein said rubber layer is peroxide cured.

14. The automotive hose of claim 1 wherein said rubber layer comprises from about 70 to about 90 parts of EVM comprising from about 50 to about 70 percent by weight of vinyl acetate, and from about 30 to about 10 parts of ACM comprising ethyl acrylate, butyl acrylate, methoxy ethyl acrylate, and a cure site monomer.

15. The automotive hose of claim 1 wherein the ACM has a Mooney viscosity ML (1+4) @ 100°C ranging from 23 to 31.

16. The automotive hose of claim 1 wherein the ACM has a Mooney viscosity ML (1+4) @ 100°C ranging from 29 to 36.

17. The automotive hose of claim 1 wherein the ACM has a Mooney viscosity ML (1+4) @ 100°C ranging from 43 to 53.

EVIDENCE APPENDIX

RELATED PROCEEDINGS APPENDIX

APPELLANTS' BRIEF AND APPENDICES

RECEIVED
FEB 0 2 2007
TC 1700

U.S. PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES
FEB 0 1 2007
RECEIVED

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Board of Patent Appeals and Interferences, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the 30 day of January, 2007.

John D. DeLong, Registration No. 44,648

TABLE OF CONTENTS

Appellant's Brief 1

Real Party in Interest 1

Related Appeals and Interferences 1

Status of the Claims 1

Status of Amendments 2

Summary of the Claimed Subject Matter 2

Grounds of Rejection to be Reviewed on Appeal 2

Argument 2

First Ground of Rejection, Claims 1 through 17 2

Claims Appendix .... Appendix 1

Claims Involved in Appeal .... Appendix 1

Evidence Appendix .... Appendix 2

Related Proceedings Appendix .... Appendix 3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Randal Howard Kerstetter III, et al.)
For: HOSE CONSTRUCTION)
CONTAINING POLYMER COMPOSITION)
Serial No.: 10/680,767)
Filed: October 7, 2003)

Docket No.: DN2002161
Confirmation No.: 5233
Art Unit: 1772
Examiner: Michael C. Miggins

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

RECEIVED
FEB 0 2 2007
TC 1700

U.S. PATENT AND TRADEMARK OFFICE
BD. OF PAT. APPEALS
AND INTERFERENCES
FEB 0 1 2007
RECEIVED

APPELLANTS' BRIEF

Dear Sir:

Appellants, by virtue of their Notice of Appeal filed October 30, 2006, hereby files their Brief in response to the Final Rejection of all pending claims in the above-identified application. Please charge my Deposit Account No. 07-1725 in the amount of Six Hundred Twenty and 00/100 Dollars ($620.00) to cover the fee for filing this Brief in support of this Appeal and for a one-month extension of time to file this Brief. Any deficiency or overpayment should be charged to this Deposit Account.

Real Party in Interest

By virtue of Assignments dated August 27 and 28, 2003 by the named inventors, the real party in interest is The Goodyear Tire & Rubber Company. These assignments have not been recorded in the U.S. Patent and Trademark Office.

Related Appeals and Interferences

Appellant is not aware of any appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

Status Of The Claims

Claims 1 through 17 stand rejected and are subject to this Appeal. A copy of claims 1

through 17 appear in the Claims Appendix of this Brief.

Status Of Amendments

No amendment after Final Rejection under 37 C.F.R. Section 1.116 was filed.

Summary Of The Claimed Subject Matter

The present invention relates to an automotive hose having at least one rubber layer comprising from about 60 to about 95 parts by weight of EVM, and from about 5 to about 40 parts by weight of ACM (specification at page 2, lines 18 through 20).

Grounds of Rejection to be Reviewed on Appeal

The first issue and only before the Board of Patent Appeals and Interferences is whether claims 1 through 17 are properly rejected under 35 U.S.C. Section 103(a) as being unpatentable over Fischer, U.S. Patent No. 4,309,332 in view of Lewis, U.S. Patent No. 3,873,494.

ARGUMENT

Claims 1 through 17 Rejected Under 35 U.S.C. Section 103(a)

Claims 1 through 17 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Fischer in view of Lewis.

To establish a *prima facie* case of obviousness, the PTO must satisfy three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. *See Karsten Mfg. Corp. v. Cleveland Gulf Co.*, 242 F.3d 1376, 1385, 58 U.S.P.Q.2d 1286, 1293 (Fed. Cir. 2001) ("In holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention."); *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340,

1352, 48 U.S.P.Q.2d 1225, 1232 (Fed. Cir. 1998) (a showing of a suggestion, teaching, or motivation to combine the prior art references is an "essential evidentiary component of an obviousness holding"); *Northern Telecom v. Datapoint Corp.*, 908 F.2d 931, 934, 15 U.S.P.Q.2d 1321, 1323 (Fed. Cir. 1990) ("It is insufficient that the prior art disclosed the components of the patented device, either separately or used in other combinations; there must be some teaching, suggestion, or incentive to make the combination made by the inventor."); *Abbott Laboratories v. Syntron Bioresearch, Inc.*, 334 F.3d 1343, 67 U.S.P.Q.2d 1337 (Fed. Cir.), *reh'g denied*, 2003 U.S. App. LEXIS 17605 (2003) ("Knowledge in the prior art of every element of a patent claim, however, is not of itself sufficient to render claim obvious. The issue is whether substantial evidence supports the judgment (under the clear and convincing evidence standard) that a person having ordinary skill in the art would not have been motivated to replace the [prior art process] with [the process of the invention]"). Motivation to modify a reference may be lacking where the prior art teaches away from such a modification. *In re Gurley*, 27 F.3d 551, 31 U.S.P.Q.2d 1130 (Fed. Cir. 1994) ("A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the Appellant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the Appellant.") If a proposal for modifying the prior art in an effort to attain the claim invention causes the art to become inoperable or destroys its intended function, then the requisite motivation to make the modification would not have existed. *See In re Fritch*, 972 F.2d at 1260, 1265 n.12, 23 U.S.P.Q. 2d 1780, 1783 n.12 ("A proposed modification [is] inappropriate for an obviousness inquiry when the modification render[s] the prior art reference inoperable for its intended purpose."); *In re*

Ratti, 270 F.2d 810, 813, 123 U.S.P.Q. 349, 352 (C.C.P.A. 1959) (holding the suggested combination of references improper under §103 because it "would require a substantial reconstruction and redesign of the elements shown in [a prior art reference] as well as a change in the basic principles under which [that reference's] construction was designed to operate").

Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. In other words, a hindsight analysis is not allowed. *See Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991) (While the idea of using a monkey gene to probe for a homologous human gene may have been "obvious to try," many pitfalls existed that would have eliminated a reasonable expectation of successfully obtaining the EPO gene. "Hindsight is not a justifiable basis on which to find that ultimate achievement of a long sought and difficult scientific goal was obvious."); *In re Erlich*, 3 U.S.P.Q.2d 1011, 1016 (Bd. Pat. App. & Int. 1986) ("At the time the invention was made, one of ordinary skill in the art would have been motivated to produce monoclonal antibodies specific for human fibroplast interferon using the method of [the prior art] with a reasonable expectation of success.").

Lastly, the prior art reference or combination of references must teach or suggest all the limitations of the claims. *See In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970) ("All words in a claim must be considered in judging the patentability of that claim against the prior art.").

Fischer teaches an ethylene vinyl acetate gum stock modified with a suitable elastomer, including polyacrylate rubber among others (abstract). Fischer further teaches that to be suitable for addition to the ethylene vinyl acetate, an elastomer must have a Mooney viscosity ML (1+4) @ 100 °C ranging from 65 to 115 (column 2, lines 5 through15). As

noted by the Examiner, Fischer fails to disclose an ACM having a Mooney viscosity as recited in the claims. To provide for the lack of teaching in Fischer, the Examiner proposes to combine Fischer with the teaching of Lewis.

Lewis teaches a cable covering that is a blend of a butadiene/acrylonitrile polymer (i.e., NBR) with an ethylene acrylic ester polymer, i.e., AEM, or an ethylene/vinyl acetate polymer, i.e., EVM. (column 1, Lines 34 through 45). Lewis teaches nothing about suitable Mooney viscosity of the AEM or EVM; Lewis discloses only that the Mooney viscosity of the NBR should be in the range of 20-120. Moreover, Lewis does not disclose the use of ACM.

Appellants urge that the claims are not obvious over Fischer in view of Lewis. Fischer clearly teaches away from the recited Mooney viscosity range: Fischer requires that the Mooney viscosity of the added elastomer be in the range of 65 to 115 in order to obtain the desired increase in Mooney viscosity and green strength of the blended ethylene vinyl acetate/added elastomer without negatively affecting the physical and chemical properties of the ethylene vinyl acetate copolymer (column 2, lines 5 through 15). By contrast, the claims as amended recite a Mooney viscosity ML (1+4) @ 100 °C ranging from 23 to 53, well below that taught as necessary by Fischer.

Appellants further urge that a combination of Fischer and Lewis does not result in the present claims, and therefore no *prima facie* obviousness is established. Lewis teaches only that an ethylene acrylic ester polymer or ethylene/vinyl acetate polymer may be blended with a butadiene/acrylonitrile polymer. Nowhere does Lewis teach or suggest an ACM with a Mooney viscosity as recited in the present claims; the only mention of Mooney viscosity in Lewis pertains to the suitable viscosity for the butadiene/acrylonitrile polymer. Thus, even if combined, the proposed combination of Fischer and Lewis does not result in the present claims.

Lewis in fact does not teach the use of ACM at all. Lewis at Column 1, Lines 34 through 45 teaches a cable covering that is a blend of a butadiene/acrylonitrile polymer (i.e., NBR) with an ethylene acrylic ester polymer (i.e., AEM) or an ethylene/vinyl acetate polymer (i.e., EVM). Nowhere does Lewis teach or make obvious the use of ACM in any way. In fact, ACM is contrasted with AEM in the current specification in Example I, wherein a specific AEM is identified as a terpolymer of ethylene, methyl acrylate, and a cure site monomer. By contrast, and as would be appreciated by one skilled in the art, ACM is not derived from ethylene as one of its monomers. Clearly, the proposed combination of Fischer and Lewis does not result in the present claims.

Neither Fischer nor Lewis teaches an ACM having a Mooney viscosity as recited in the present claims. As such, the combination of Fischer and Lewis does not result in the present claims, and *prima facie* obviousness is not established.

Further, Appellants urge that the Examiner has cited nothing to support the assertion that an AEM having a particular range of Mooney viscosity (as disclosed in Lewis) is equivalent to an ACM having that range of Mooney viscosity (as recited in the claims). It is apparent that the Examiner has relied on personal knowledge to support this assertion. Appellants have requested that the Examiner supply an affidavit under 37 CFR 1.104(d)(2) attesting to this personal knowledge. Short of such an attestation, there is no nexus between the AEM of Lewis and the ACM of the present claims, the use of Lewis to supplement the teaching of Fischer therefore fails, and *prima facie* obviousness is not established.

The Examiner has refused to accommodate Appellants' request for an affidavit attesting to the Examiner's personal knowledge of the similarity between AEM and ACM (Office action mailed 7/27/06, paragraph 4). Here, the Examiner maintains Lewis is relied upon "to show that lower mooney viscosities are well known and obvious for acrylic containing rubbers in order to provide easier processing. Nowhere has the examiner asserted

that the Fischer and Lewis acrylic containing rubbers are structurally equivalent." However, the Examiner previously stated, "Lewis is merely relied upon to show that Appellant's recited mooney viscosity for ACM or AEM, *which is a very similar compound to ACM is well known (*Office Action mailed 2/15/06 at paragraph 5, *emphasis added).* It is clear that the Examiner indeed assumes that ACM and AEM are "similar compounds," and groups them together as "acrylic containing rubbers" and thereby asserts their equivalence. However, nowhere has the Examiner provided any evidence that ACM and AEM are equivalent, other than to assert that Lewis discloses the use of AEM having a Mooney viscosity in the range of 20 to 120. Indeed, Lewis teaches that AEM having a Mooney viscosity in the range of 20 to 120 may be used in a blend with a butadiene/acrylonitrile polymer (column 1, lines 34 through 46). In order to arrive at the present claims, one skilled in the art would have to assume that the AEM of Lewis is equivalent to the ACM of Fischer and thereby substitute the ACM for the AEM, while simultaneously disregarding Fischer's requirement that the Mooney viscosity be in a range of 65 to 115. Nowhere does Lewis teach nor suggest that such an AEM may be used with EVM as recited in the present claims, nor even that an ACM of similar Mooney viscosity may be substituted for the AEM.

But, even if it is assumed (as urged by the Examiner in the most recent office action) that ACM with the recited Mooney viscosity is equivalent to the AEM disclosed in Lewis, *prima facie* obviousness is still not established. Fischer teaches use of an ACM having a Mooney viscosity ranging from 65 to 110. Fischer thereby teaches away from use of an ACM (or AEM, or any other material) having a Mooney viscosity as recited in the claims, and one skilled in the art therefore would not be motivated to modify the teaching of Fischer (requiring a Mooney viscosity of 65 to 110) to obtain the present claims (requiring a Mooney viscosity in a range selected from the group consisting of 23 to 31, 29 to 36, and 43 to 53.)

Since no motivation exists to modify the teaching of Fischer, *prima facie* obviousness is not established.

Based upon the foregoing, Appellants respectfully request reconsideration of the pending claims and earnestly solicits a reversal of the Examiner's Final Rejection.

Respectfully submitted,

John D. DeLong, Registration No. 44,648
Attorney for Appellant

The Goodyear Tire & Rubber Company
Department 823
1144 East Market Street
Akron, Ohio 44316-0001
Telephone: (330) 796-8757

CLAIMS APPENDIX

Claims on Appeal:

1. An automotive hose comprising at least one rubber layer comprising:

(A) from about 60 to about 95 parts by weight of EVM; and

(B) from about 5 to about 40 parts by weight of ACM having a Mooney viscosity ML (1+4) @ 100°C in a range selected from the group consisting of 23 to 31, 29 to 36, and 43 to 53.

2. The hose of claim 1, wherein said rubber layer comprises from about 80 to about 90 parts by weight of EVM and from about 10 to about 20 parts by weight of ACM.

3. The hose of claim 1, wherein said rubber layer comprises from about 70 to about 90 parts by weight of EVM and from about 10 to about 30 parts by weight of ACM.

4. The automotive hose of claim 1 wherein said EVM comprises from about 40 to about 80 percent vinyl acetate.

5. The automotive hose of claim 1 wherein said EVM comprises from about 50 to about 70 percent vinyl acetate.

6. The automotive hose of claim 1 wherein said ACM comprises one or more monomers selected from the group consisting of C1-C8 alkyl acrylates and C2-C8 alkoxy C1-C8 alkyl acrylates.

7. The automotive hose of claim 6 wherein said ACM further comprises at least one cure site monomer.

8. The automotive hose of claim 6 wherein said ACM further comprises at least one cure site monomer selected from the group consisting halogen-containing cure site monomers, epoxy monomers and carboxylate type cure site monomers.

9. The automotive hose of claim 7 wherein said halogen containing

monomer is vinyl chloroacetate or 2-chloroethyl vinyl ether.

10. The automotive hose of claim 1 wherein said ACM is a copolymer comprising ethyl acrylate, butyl acrylate, methoxyethyl acrylate, and a cure site monomer.

11. The automotive hose of claim 1 wherein said rubber layer further comprises from about 10 to about 120 phr of carbon black.

12. The automotive hose of claim 1 wherein said rubber layer further comprise from about 35 to about 90 phr of carbon black.

13. The automotive hose of claim 1 wherein said rubber layer is peroxide cured.

14. The automotive hose of claim 1 wherein said rubber layer comprises from about 70 to about 90 parts of EVM comprising from about 50 to about 70 percent by weight of vinyl acetate, and from about 30 to about 10 parts of ACM comprising ethyl acrylate, butyl acrylate, methoxy ethyl acrylate, and a cure site monomer.

15. The automotive hose of claim 1 wherein the ACM has a Mooney viscosity ML (1+4) @ 100°C ranging from 23 to 31.

16. The automotive hose of claim 1 wherein the ACM has a Mooney viscosity ML (1+4) @ 100°C ranging from 29 to 36.

17. The automotive hose of claim 1 wherein the ACM has a Mooney viscosity ML (1+4) @ 100°C ranging from 43 to 53.

EVIDENCE APPENDIX

RELATED PROCEEDINGS APPENDIX

APPELLANTS' BRIEF AND APPENDICES

RECEIVED
FEB 0 1 2007
U.S. PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

RECEIVED
FEB [illegible] 2007
TC [illegible]

RECEIVED
FEB 0 2 2007
TC 1700

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Board of Patent Appeals and Interferences, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the 30 day of January, 2007.

John D. DeLong, Registration No. 44,648

TABLE OF CONTENTS

Appellant's Brief 1

Real Party in Interest 1

Related Appeals and Interferences 1

Status of the Claims 1

Status of Amendments 2

Summary of the Claimed Subject Matter 2

Grounds of Rejection to be Reviewed on Appeal 2

Argument 2

First Ground of Rejection, Claims 1 through 17 2

Claims Appendix .... Appendix 1

Claims Involved in Appeal .... Appendix 1

Evidence Appendix .... Appendix 2

Related Proceedings Appendix .... Appendix 3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Randal Howard Kerstetter III, et al.)
For: HOSE CONSTRUCTION)
CONTAINING POLYMER COMPOSITION)
Serial No.: 10/680,767)
Filed: October 7, 2003)

Docket No.: DN2002161
Confirmation No.: 5233
Art Unit: 1772
Examiner: Michael C. Miggins

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

RECEIVED
FEB 02 2007
TC 1700

RECEIVED
FEB 01 2007
U.S. PATENT AND [illegible]
BOARD OF PAT[illegible]
AND INTERFERENCES

APPELLANTS' BRIEF

Dear Sir:

Appellants, by virtue of their Notice of Appeal filed October 30, 2006, hereby files their Brief in response to the Final Rejection of all pending claims in the above-identified application. Please charge my Deposit Account No. 07-1725 in the amount of Six Hundred Twenty and 00/100 Dollars ($620.00) to cover the fee for filing this Brief in support of this Appeal and for a one-month extension of time to file this Brief. Any deficiency or overpayment should be charged to this Deposit Account.

Real Party in Interest

By virtue of Assignments dated August 27 and 28, 2003 by the named inventors, the real party in interest is The Goodyear Tire & Rubber Company. These assignments have not been recorded in the U.S. Patent and Trademark Office.

Related Appeals and Interferences

Appellant is not aware of any appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

Status Of The Claims

Claims 1 through 17 stand rejected and are subject to this Appeal. A copy of claims 1

through 17 appear in the Claims Appendix of this Brief.

Status Of Amendments

No amendment after Final Rejection under 37 C.F.R. Section 1.116 was filed.

Summary Of The Claimed Subject Matter

The present invention relates to an automotive hose having at least one rubber layer comprising from about 60 to about 95 parts by weight of EVM, and from about 5 to about 40 parts by weight of ACM (specification at page 2, lines 18 through 20).

Grounds of Rejection to be Reviewed on Appeal

The first issue and only before the Board of Patent Appeals and Interferences is whether claims 1 through 17 are properly rejected under 35 U.S.C. Section 103(a) as being unpatentable over Fischer, U.S. Patent No. 4,309,332 in view of Lewis, U.S. Patent No. 3,873,494.

ARGUMENT

Claims 1 through 17 Rejected Under 35 U.S.C. Section 103(a)

Claims 1 through 17 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Fischer in view of Lewis.

To establish a *prima facie* case of obviousness, the PTO must satisfy three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. *See Karsten Mfg. Corp. v. Cleveland Gulf Co.*, 242 F.3d 1376, 1385, 58 U.S.P.Q.2d 1286, 1293 (Fed. Cir. 2001) ("In holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention."); *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340,

1352, 48 U.S.P.Q.2d 1225, 1232 (Fed. Cir. 1998) (a showing of a suggestion, teaching, or motivation to combine the prior art references is an "essential evidentiary component of an obviousness holding"); *Northern Telecom v. Datapoint Corp.*, 908 F.2d 931, 934, 15 U.S.P.Q.2d 1321, 1323 (Fed. Cir. 1990) ("It is insufficient that the prior art disclosed the components of the patented device, either separately or used in other combinations; there must be some teaching, suggestion, or incentive to make the combination made by the inventor."); *Abbott Laboratories v. Syntron Bioresearch, Inc.*, 334 F.3d 1343, 67 U.S.P.Q.2d 1337 (Fed. Cir.), *reh'g denied*, 2003 U.S. App. LEXIS 17605 (2003) ("Knowledge in the prior art of every element of a patent claim, however, is not of itself sufficient to render claim obvious. The issue is whether substantial evidence supports the judgment (under the clear and convincing evidence standard) that a person having ordinary skill in the art would not have been motivated to replace the [prior art process] with [the process of the invention]"). Motivation to modify a reference may be lacking where the prior art teaches away from such a modification. *In re Gurley*, 27 F.3d 551, 31 U.S.P.Q.2d 1130 (Fed. Cir. 1994) ("A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the Appellant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the Appellant.") If a proposal for modifying the prior art in an effort to attain the claim invention causes the art to become inoperable or destroys its intended function, then the requisite motivation to make the modification would not have existed. *See In re Fritch*, 972 F.2d at 1260, 1265 n.12, 23 U.S.P.Q. 2d 1780, 1783 n.12 ("A proposed modification [is] inappropriate for an obviousness inquiry when the modification render[s] the prior art reference inoperable for its intended purpose."); *In re*

Ratti, 270 F.2d 810, 813, 123 U.S.P.Q. 349, 352 (C.C.P.A. 1959) (holding the suggested combination of references improper under §103 because it "would require a substantial reconstruction and redesign of the elements shown in [a prior art reference] as well as a change in the basic principles under which [that reference's] construction was designed to operate").

Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. In other words, a hindsight analysis is not allowed. *See Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991) (While the idea of using a monkey gene to probe for a homologous human gene may have been "obvious to try," many pitfalls existed that would have eliminated a reasonable expectation of successfully obtaining the EPO gene. "Hindsight is not a justifiable basis on which to find that ultimate achievement of a long sought and difficult scientific goal was obvious."); *In re Erlich*, 3 U.S.P.Q.2d 1011, 1016 (Bd. Pat. App. & Int. 1986) ("At the time the invention was made, one of ordinary skill in the art would have been motivated to produce monoclonal antibodies specific for human fibroplast interferon using the method of [the prior art] with a reasonable expectation of success.").

Lastly, the prior art reference or combination of references must teach or suggest all the limitations of the claims. *See In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970) ("All words in a claim must be considered in judging the patentability of that claim against the prior art.").

Fischer teaches an ethylene vinyl acetate gum stock modified with a suitable elastomer, including polyacrylate rubber among others (abstract). Fischer further teaches that to be suitable for addition to the ethylene vinyl acetate, an elastomer must have a Mooney viscosity ML (1+4) @ 100 °C ranging from 65 to 115 (column 2, lines 5 through15). As

noted by the Examiner, Fischer fails to disclose an ACM having a Mooney viscosity as recited in the claims. To provide for the lack of teaching in Fischer, the Examiner proposes to combine Fischer with the teaching of Lewis.

Lewis teaches a cable covering that is a blend of a butadiene/acrylonitrile polymer (i.e., NBR) with an ethylene acrylic ester polymer, i.e., AEM, or an ethylene/vinyl acetate polymer, i.e., EVM. (column 1, Lines 34 through 45). Lewis teaches nothing about suitable Mooney viscosity of the AEM or EVM; Lewis discloses only that the Mooney viscosity of the NBR should be in the range of 20-120. Moreover, Lewis does not disclose the use of ACM.

Appellants urge that the claims are not obvious over Fischer in view of Lewis. Fischer clearly teaches away from the recited Mooney viscosity range: Fischer requires that the Mooney viscosity of the added elastomer be in the range of 65 to 115 in order to obtain the desired increase in Mooney viscosity and green strength of the blended ethylene vinyl acetate/added elastomer without negatively affecting the physical and chemical properties of the ethylene vinyl acetate copolymer (column 2, lines 5 through 15). By contrast, the claims as amended recite a Mooney viscosity ML (1+4) @ 100 °C ranging from 23 to 53, well below that taught as necessary by Fischer.

Appellants further urge that a combination of Fischer and Lewis does not result in the present claims, and therefore no *prima facie* obviousness is established. Lewis teaches only that an ethylene acrylic ester polymer or ethylene/vinyl acetate polymer may be blended with a butadiene/acrylonitrile polymer. Nowhere does Lewis teach or suggest an ACM with a Mooney viscosity as recited in the present claims; the only mention of Mooney viscosity in Lewis pertains to the suitable viscosity for the butadiene/acrylonitrile polymer. Thus, even if combined, the proposed combination of Fischer and Lewis does not result in the present claims.

Lewis in fact does not teach the use of ACM at all. Lewis at Column 1, Lines 34 through 45 teaches a cable covering that is a blend of a butadiene/acrylonitrile polymer (i.e., NBR) with an ethylene acrylic ester polymer (i.e., AEM) or an ethylene/vinyl acetate polymer (i.e., EVM). Nowhere does Lewis teach or make obvious the use of ACM in any way. In fact, ACM is contrasted with AEM in the current specification in Example I, wherein a specific AEM is identified as a terpolymer of ethylene, methyl acrylate, and a cure site monomer. By contrast, and as would be appreciated by one skilled in the art, ACM is not derived from ethylene as one of its monomers. Clearly, the proposed combination of Fischer and Lewis does not result in the present claims.

Neither Fischer nor Lewis teaches an ACM having a Mooney viscosity as recited in the present claims. As such, the combination of Fischer and Lewis does not result in the present claims, and *prima facie* obviousness is not established.

Further, Appellants urge that the Examiner has cited nothing to support the assertion that an AEM having a particular range of Mooney viscosity (as disclosed in Lewis) is equivalent to an ACM having that range of Mooney viscosity (as recited in the claims). It is apparent that the Examiner has relied on personal knowledge to support this assertion. Appellants have requested that the Examiner supply an affidavit under 37 CFR 1.104(d)(2) attesting to this personal knowledge. Short of such an attestation, there is no nexus between the AEM of Lewis and the ACM of the present claims, the use of Lewis to supplement the teaching of Fischer therefore fails, and *prima facie* obviousness is not established.

The Examiner has refused to accommodate Appellants' request for an affidavit attesting to the Examiner's personal knowledge of the similarity between AEM and ACM (Office action mailed 7/27/06, paragraph 4). Here, the Examiner maintains Lewis is relied upon "to show that lower mooney viscosities are well known and obvious for acrylic containing rubbers in order to provide easier processing. Nowhere has the examiner asserted

that the Fischer and Lewis acrylic containing rubbers are structurally equivalent." However, the Examiner previously stated, "Lewis is merely relied upon to show that Appellant's recited mooney viscosity for ACM or AEM, *which is a very similar compound to ACM is well known* (Office Action mailed 2/15/06 at paragraph 5, *emphasis added)*. It is clear that the Examiner indeed assumes that ACM and AEM are "similar compounds," and groups them together as "acrylic containing rubbers" and thereby asserts their equivalence. However, nowhere has the Examiner provided any evidence that ACM and AEM are equivalent, other than to assert that Lewis discloses the use of AEM having a Mooney viscosity in the range of 20 to 120. Indeed, Lewis teaches that AEM having a Mooney viscosity in the range of 20 to 120 may be used in a blend with a butadiene/acrylonitrile polymer (column 1, lines 34 through 46). In order to arrive at the present claims, one skilled in the art would have to assume that the AEM of Lewis is equivalent to the ACM of Fischer and thereby substitute the ACM for the AEM, while simultaneously disregarding Fischer's requirement that the Mooney viscosity be in a range of 65 to 115. Nowhere does Lewis teach nor suggest that such an AEM may be used with EVM as recited in the present claims, nor even that an ACM of similar Mooney viscosity may be substituted for the AEM.

But, even if it is assumed (as urged by the Examiner in the most recent office action) that ACM with the recited Mooney viscosity is equivalent to the AEM disclosed in Lewis, *prima facie* obviousness is still not established. Fischer teaches use of an ACM having a Mooney viscosity ranging from 65 to 110. Fischer thereby teaches away from use of an ACM (or AEM, or any other material) having a Mooney viscosity as recited in the claims, and one skilled in the art therefore would not be motivated to modify the teaching of Fischer (requiring a Mooney viscosity of 65 to 110) to obtain the present claims (requiring a Mooney viscosity in a range selected from the group consisting of 23 to 31, 29 to 36, and 43 to 53.)

Since no motivation exists to modify the teaching of Fischer, *prima facie* obviousness is not established.

Based upon the foregoing, Appellants respectfully request reconsideration of the pending claims and earnestly solicits a reversal of the Examiner's Final Rejection.

Respectfully submitted,

John D. DeLong, Registration No. 44,648
Attorney for Appellant

The Goodyear Tire & Rubber Company
Department 823
1144 East Market Street
Akron, Ohio 44316-0001
Telephone: (330) 796-8757

CLAIMS APPENDIX

Claims on Appeal:

1. An automotive hose comprising at least one rubber layer comprising:

(A) from about 60 to about 95 parts by weight of EVM; and

(B) from about 5 to about 40 parts by weight of ACM having a Mooney viscosity ML (1+4) @ 100°C in a range selected from the group consisting of 23 to 31, 29 to 36, and 43 to 53.

2. The hose of claim 1, wherein said rubber layer comprises from about 80 to about 90 parts by weight of EVM and from about 10 to about 20 parts by weight of ACM.

3. The hose of claim 1, wherein said rubber layer comprises from about 70 to about 90 parts by weight of EVM and from about 10 to about 30 parts by weight of ACM.

4. The automotive hose of claim 1 wherein said EVM comprises from about 40 to about 80 percent vinyl acetate.

5. The automotive hose of claim 1 wherein said EVM comprises from about 50 to about 70 percent vinyl acetate.

6. The automotive hose of claim 1 wherein said ACM comprises one or more monomers selected from the group consisting of C1-C8 alkyl acrylates and C2-C8 alkoxy C1-C8 alkyl acrylates.

7. The automotive hose of claim 6 wherein said ACM further comprises at least one cure site monomer.

8. The automotive hose of claim 6 wherein said ACM further comprises at least one cure site monomer selected from the group consisting halogen-containing cure site monomers, epoxy monomers and carboxylate type cure site monomers.

9. The automotive hose of claim 7 wherein said halogen containing

monomer is vinyl chloroacetate or 2-chloroethyl vinyl ether.

10. The automotive hose of claim 1 wherein said ACM is a copolymer comprising ethyl acrylate, butyl acrylate, methoxyethyl acrylate, and a cure site monomer.

11. The automotive hose of claim 1 wherein said rubber layer further comprises from about 10 to about 120 phr of carbon black.

12. The automotive hose of claim 1 wherein said rubber layer further comprise from about 35 to about 90 phr of carbon black.

13. The automotive hose of claim 1 wherein said rubber layer is peroxide cured.

14. The automotive hose of claim 1 wherein said rubber layer comprises from about 70 to about 90 parts of EVM comprising from about 50 to about 70 percent by weight of vinyl acetate, and from about 30 to about 10 parts of ACM comprising ethyl acrylate, butyl acrylate, methoxy ethyl acrylate, and a cure site monomer.

15. The automotive hose of claim 1 wherein the ACM has a Mooney viscosity ML (1+4) @ 100°C ranging from 23 to 31.

16. The automotive hose of claim 1 wherein the ACM has a Mooney viscosity ML (1+4) @ 100°C ranging from 29 to 36.

17. The automotive hose of claim 1 wherein the ACM has a Mooney viscosity ML (1+4) @ 100°C ranging from 43 to 53.

EVIDENCE APPENDIX

RELATED PROCEEDINGS APPENDIX